

EASY ACCESS TO SYNCHROTRON POWDER DIFFRACTION ON PHARMACEUTICALS

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The 11-BM diffractometer (<http://11bm.xor.aps.anl.gov>) at the Argonne Advanced Photon Source is the country's newest synchrotron powder diffractometer. It uses twelve perfect-crystal analyzers, offering the highest powder diffraction resolution in the country without sacrificing throughput or sensitivity. Most scans are completed in an hour or less. The instrument is available for both proprietary and non-proprietary studies; there are no costs associated with non-proprietary use, but Federal law requires cost-recovery for proprietary use. 11-BM is equipped with a Mitsubishi robot coupled to a Cryostream 700+ allowing samples to be changed under automatic control while also allowing data collection in the temperature range of 90–475 K. The initial deployment of the beamline has been to provide mail-in access to the instrument, allowing users to obtain data unmatched in quality, usually within a month. Extensive web-based software automates sample tracking for mail-in usage. In addition, the instrument is now available for on-site use, for more specialized measurements that are not possible with the mail-in program. The mail-in web system is also being expanded to allow users greater degrees of control over their data collection, for example with samples that decompose in the x-ray beam. Information on the 11-BM diffractometer, on obtaining access and discussing pharmaceutical studies in progress at 11-BM will be provided.